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of the United Nations



## Thirtieth Session

12–14 December 2016

Islamabad, Pakistan



FAO Commission for  
Controlling the Desert Locust  
in South-West Asia

**Report of the  
FAO Commission for Controlling the  
Desert Locust in South-West Asia**

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Food and Agriculture Organization of the United Nations  
Rome, 2016

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Participants of the 30<sup>th</sup> Session of the FAO Commission for Controlling the Desert Locust in South-West Asia (left to right): Mirjan Hemat (Afghanistan), Muhammad Tariq Khan (Pakistan), Keith Cressman (FAO/SWAC), B.S. Phogat (India)

## Acknowledgements

The Executive Secretary and the delegates of the 30<sup>th</sup> session of SWAC wish to thank the Government of Pakistan for hosting the session in Islamabad. We are grateful to the staff of the Department of Plant Protection (DPP), the Ministry of National Food Security and Research (NFSR), the International, the Ministry of Foreign Affairs and the FAO Representation for their efforts in organizing the session and their last-minute interventions in ensuring the timely arrival of delegates. In this respect, particular thanks are due to Muhammad Abid Javed (Secretary, NFSR), Sahibzada Mohammad Imran Shami (Director-General, DPP), Patrick Evans and Raessuddin (FAO Representation in Pakistan), the Ministry of Foreign Affairs, and Antonietta Drappa (AGPMM).

## List of recommendations

The 30<sup>th</sup> session agreed on the following 30 recommendations:

1. The improvements to future joint surveys as suggested by the joint survey teams should be implemented.
2. The original DSA rates should be reinstated for future joint surveys.
3. The Executive Secretary should request DPP Pakistan to confirm the security situation in Baluchistan at least two months prior to the start of the joint survey.
4. An Iranian locust officer should continue to join a national survey in Oman during the spring on an annual basis.
5. A locust officer from Afghanistan and India should join the coastal portion of the joint survey in Iran on an annual basis.
6. A locust officer from Pakistan should join a national survey in India during the summer on an annual basis.
7. A locust officer from I.R. Iran should join a national survey during the summer in Pakistan (2017) and India (2018).
8. The Locust Information Officer of the host country should use Rv4.1 to prepare a map showing rainfall and the locust situation in both countries to be included in the Joint Border Meeting report.
9. All efforts should be made to ensure that India has two locust information officers located in the LWO field headquarters in Jodhpur.
10. All efforts should be made to appoint an assistant to the current locust information officer in Pakistan.
11. Two national locust information officers from each frontline country should participate in the annual CRC/SWAC Desert Locust Information Officer workshop.
12. The Executive Secretary should conduct a regional workshop on an annual basis for SWAC locust information officers, including one officer from Afghanistan and Locust Heads when possible.
13. A plug-in should be developed for RAMSES GIS that summarizes data and helps to prepare the national locust bulletins.
14. FAO DLIS should organize monthly video calls to national locust information officers in order to provide technical support for locust information and reporting.
15. All countries are encouraged to include the SWAC logo in national locust bulletins.
16. Countries using eLocust3 should consider developing a systematic method of managing the storage of eLocust3 units and checking the date/time and battery status.
17. Countries should translate the references in eLocust3 to local languages and load them onto the tablets.
18. The Executive Secretary should develop a checklist of contingency plan components.
19. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary.
20. The Executive Secretary in collaboration with the Plant Protection Organization should organize and conduct a mock exercise in the field to test the contingency plan in I.R. Iran and include one participant from each of the other member countries.
21. A plug-in should be developed for RAMSES GIS to manage resources for locust survey and control.
22. The Trust Fund should procure 2 kg of *Metarhizium* per country for demonstration purposes and to check its efficacy in the respective countries.
23. The Executive Secretary should liaise with *Metarhizium* manufacturer(s) to encourage the registration of *Metarhizium* in member countries.
24. The Executive Secretary should conduct a national Master Trainer workshop in Pakistan and include the best Master Trainer from India and Iran as assistants.

25. I.R. Iran should provide training to at least four locust officers from Afghanistan.
26. FAO should correct the annual contribution rate for Afghanistan.
27. Pakistan should clarify its payment for 2012–2014 and 2016.
28. All countries are requested to assume their financial obligations to SWAC in a timely and regular manner, and inform the Executive Secretary accordingly.
29. All countries are requested to assume their financial obligations to DLCC in a timely and regular manner, and inform FAO accordingly.
30. The host country of the 31<sup>st</sup> session should provide its formal agreement to FAO by June 2018.

## **Recommendations to be implemented by member countries and FAO**

The 30 recommendations from the 30<sup>th</sup> session are grouped in order to facilitate their implementation by Afghanistan (6), India (10), I.R. Iran (12), Pakistan (13) and FAO (14).

### **Afghanistan**

1. A locust officer from Afghanistan and India should join the coastal portion of the joint survey in Iran on an annual basis (Recommendation 5)
2. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary (Recommendation 19)
3. I.R. Iran should provide training to at least four locust officers from Afghanistan (Recommendation 25)
4. All countries are requested to assume their financial obligations to SWAC in a timely and regular manner, and inform the Executive Secretary accordingly (Recommendation 28)
5. All countries are requested to assume their financial obligations to DLCC in a timely and regular manner, and inform FAO accordingly. (Recommendation 29)
6. The host country of the 31<sup>st</sup> session should provide its formal agreement to FAO by June 2018 (Recommendation 30)

### **India**

1. A locust officer from Afghanistan and India should join the coastal portion of the joint survey in Iran on an annual basis (Recommendation 5)
2. The Locust Information Officer of the host country should use Rv4.1 to prepare a map showing rainfall and the locust situation in both countries to be included in the Joint Border Meeting report (Recommendation 8)
3. All efforts should be made to ensure that India has two locust information officers located in the LWO field headquarters in Jodhpur (Recommendation 9)
4. Two national locust information officers from each frontline country should participate in the annual CRC/SWAC Desert Locust Information Officer workshop (Recommendation 11)
5. All countries are encouraged to include the SWAC logo in national locust bulletins (Recommendation 15)
6. Countries using eLocust3 should consider developing a systematic method of managing the storage of eLocust3 units and checking the date/time and battery status (Recommendation 16)
7. Countries should translate the references in eLocust3 to local languages and load them onto the tablets (Recommendation 17)
8. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary (Recommendation 19)
9. All countries are requested to assume their financial obligations to SWAC in a timely and regular manner, and inform the Executive Secretary accordingly (Recommendation 28)
10. All countries are requested to assume their financial obligations to DLCC in a timely and regular manner, and inform FAO accordingly (Recommendation 29)

### **I.R. Iran**

1. The improvements to future joint surveys as suggested by the joint survey teams should be implemented (Recommendation 1)
2. An Iranian locust officer should continue to join a national survey in Oman during the spring on an annual basis (Recommendation 4)



3. A locust officer from I.R. Iran should join a national survey during the summer in Pakistan (2017) and India (2018) (Recommendation 7)
4. Two national locust information officers from each frontline country should participate in the annual CRC/SWAC Desert Locust Information Officer workshop (Recommendation 11)
5. All countries are encouraged to include the SWAC logo in national locust bulletins (Recommendation 15)
6. Countries using eLocust3 should consider developing a systematic method of managing the storage of eLocust3 units and checking the date/time and battery status (Recommendation 16)
7. Countries should translate the references in eLocust3 to local languages and load them onto the tablets (Recommendation 17)
8. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary (Recommendation 19)
9. The Executive Secretary in collaboration with the Plant Protection Organization should organize and conduct a mock exercise in the field to test the contingency plan in I.R. Iran and include one participant from each of the other member countries (Recommendation 20)
10. I.R. Iran should provide training to at least four locust officers from Afghanistan (Recommendation 25)
11. All countries are requested to assume their financial obligations to SWAC in a timely and regular manner, and inform the Executive Secretary accordingly (Recommendation 28)
12. All countries are requested to assume their financial obligations to DLCC in a timely and regular manner, and inform FAO accordingly (Recommendation 29)

### **Pakistan**

1. The improvements to future joint surveys as suggested by the joint survey teams should be implemented (Recommendation 1)
2. The Executive Secretary should request DPP Pakistan to confirm the security situation in Baluchistan at least two months prior to the start of the joint survey (Recommendation 3)
3. A locust officer from Pakistan should join a national survey in India during the summer on an annual basis (Recommendation 6)
4. The Locust Information Officer of the host country should use Rv4.1 to prepare a map showing rainfall and the locust situation in both countries to be included in the Joint Border Meeting report (Recommendation 8)
5. All efforts should be made to appoint an assistant to the current locust information officer in Pakistan (Recommendation 10)
6. Two national locust information officers from each frontline country should participate in the annual CRC/SWAC Desert Locust Information Officer workshop (Recommendation 11)
7. All countries are encouraged to include the SWAC logo in national locust bulletins (Recommendation 15)
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10. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary (Recommendation 19)
11. Pakistan should clarify its payment for 2012–2014 and 2016 (Recommendation 27)
12. All countries are requested to assume their financial obligations to SWAC in a timely and regular manner, and inform the Executive Secretary accordingly (Recommendation 28)
13. All countries are requested to assume their financial obligations to DLCC in a timely and regular manner, and inform FAO accordingly (Recommendation 29)

## FAO

1. The original DSA rates should be reinstated for future joint surveys (Recommendation 2)
2. The Executive Secretary should request DPP Pakistan to confirm the security situation in Baluchistan at least two months prior to the start of the joint survey (Recommendation 3)
3. Two national locust information officers from each frontline country should participate in the annual CRC/SWAC Desert Locust Information Officer workshop (Recommendation 11)
4. The Executive Secretary should conduct a regional workshop on an annual basis for SWAC locust information officers, including one officer from Afghanistan and Locust Heads when possible (Recommendation 12)
5. A plug-in should be developed for RAMSES GIS that summarizes data and helps to prepare the national locust bulletins (Recommendation 13)
6. FAO DLIS should organize monthly video calls to national locust information officers in order to provide technical support for locust information and reporting (Recommendation 14)
7. The Executive Secretary should develop a checklist of contingency plan components (Recommendation 18)
8. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary (Recommendation 19)
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12. The Executive Secretary should liaise with *Metarhizium* manufacturer(s) to encourage the registration of *Metarhizium* in member countries (Recommendation 23)
13. The Executive Secretary should conduct a national Master Trainer workshop in Pakistan and include the best Master Trainer from India and Iran as assistants (Recommendation 24)
14. FAO should correct the annual contribution rate for Afghanistan (Recommendation 26)

## **30<sup>th</sup> session of the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC)**

### **Opening of the 30<sup>th</sup> session**

1. Keith Cressman, FAO Senior Locust Forecasting Officer at FAO Headquarters in Rome and the Executive Secretary of SWAC, welcomed the delegates from the member countries and thanked the Government of Pakistan for agreeing to host this session. He expressed his gratitude to the last-minute efforts that were made by the Government in ensuring the participation of the delegates. He noted that the session commenced one day late because of unexpected travel delays encountered by the Executive Secretary and the delegate from Afghanistan. He indicated that the working hours of the remaining two days will be lengthened so that all agenda items can be discussed thoroughly. Regrettably, I.R. Iran was unable to attend the session but participated remotely via Skype. He encouraged participants to discuss each item openly and in a frank manner as a means to strengthen further collaboration within the region.
2. Patrick Evans, the FAO Representative in Pakistan, on behalf of the Director-General, welcomed the delegates of the Member Countries and thanked the Government of Pakistan for hosting the 30<sup>th</sup> session. He recalled that SWAC is the oldest of FAO's three Desert Locust regional commissions, having been established 52 years ago. The Commission should be proud of this achievement, which undoubtedly is one of the causes in the reduction of Desert Locust plagues that used to devastate this region. He warmly thanked the Department of Plant Protection (DPP) and the Government of Pakistan for their tireless efforts in hosting this session. Lastly, he wished delegates a successful and constructive session.
3. Muhammad Tariq Khan, Deputy Director, DPP, welcomed the honourable delegates of the Commission's Member Countries, the FAO Representative and the SWAC Executive Secretary to the 30<sup>th</sup> session. He reiterated that the success of the Commission relies on the active participation of its member countries. He emphasized the important role that the Commission continues to play in strengthening the national capacity of its member countries in early warning and preventive control as a sound strategy in the fight against the Desert Locust. He recalled the successes of the Commission and its positive impact on food security.

### **Elections**

4. The Member Countries elected Pakistan as Chairman of the current session and India as Vice-Chairman. The elections were accepted with acclaim. A list of participants and observers is presented in Annex 1.
5. The Executive Secretary presented a draft agenda that was adopted (Annex 2).
6. The session entrusted the drafting of the report to the Executive Secretary of the Commission.

### **Desert Locust early warning**

#### **Desert Locust Situation (January 2015 – December 2016) and forecast to summer 2017**

7. The Executive Secretary gave a presentation that reviewed the Desert Locust situation since the 29<sup>th</sup> session (Annex 3). In general, the situation remained calm in both the spring and summer breeding areas except in summer 2016 when at least one mature swarm arrived on about 27 July 2016 in the Uthal area on the Pakistani coast west of Karachi. The swarm originated from the interior of Yemen and migrated on southwesterly monsoon winds. Upon arrival, it dispersed and mixed with local populations of solitary hoppers and adults, and laid eggs. Hatching commenced during the second week of August, giving rise to groups of *transiens* and gregarious hoppers. Groups of mature adults and a mature swarm were reported on the 11<sup>th</sup> August 2016.
8. FAO DLIS had warned Pakistan from mid-May onwards that such an invasion was likely in late July or early August. As soon as reports were received from locals, additional survey teams were mobilized and control teams were immediately dispatched and treated 441 ha. This was a good example of early warning and early reaction – the pillars of preventive control.

9. The outlook until summer 2017 calls for a continuation in a generally calm situation. Seasonal rainfall predictions issued in November suggest a possibility for slightly above-normal rainfall during February and April in the spring breeding areas of I.R. Iran and southwest Pakistan. These rains may be sufficient for one generation of breeding to occur in both countries that would cause locust numbers to increase slightly but remain below threatening levels. At this time, there is no risk of invasion from the Central Region.
10. Even though the outlook is not threatening, Iran and Pakistan were encouraged to conduct surveys on a regular and timely basis in the spring breeding areas of Sistan-Baluchistan in southeast Iran and in Baluchistan of western Pakistan from February to at least May or June, depending on rainfall and ecological conditions.
11. The delegates noted that, in areas of insecurity, full use should be made of any information obtained from locals, including any unconfirmed reports.

### **Report on Joint-Border Surveys and Meetings in 2015 and 2016**

12. The Executive Secretary presented the results of the joint survey that was carried out in 2015 and 2016. As it was not possible to obtain the necessary security clearances in both years for a joint Iran/Pakistan survey team to survey in southwest Pakistan, the joint survey had to be carried out as two separate national surveys simultaneously (known as Option B).
13. In 2015, the joint survey in Pakistan was undertaken by the DPP from its own resources as requested by FAO because of non-payment of the annual SWAC contribution and an insufficient balance in the Trust Fund. Due to a security risk, the survey itinerary was modified from Panjgur and, consequently, the team could not survey the areas of Turbat, Gwadar and Jiwani. Instead, the team returned from Panjgur and surveyed up to Pasni via Basima, Khuzdar, Uthal and Ormara. The nominated Team Leader was changed at the last minute due to unavoidable circumstances. Although the Pakistani team covered a distance of 4 503 km, which is less than normal due to the exclusion of the above areas, they made 146 stops. No locusts were observed.
14. The Iranian team covered a distance of 6 750 km and made a total of 108 stops. Isolated mature adults were seen in a few places along the coast while numbers were slight higher in the Jaz Murian Basin in the interior.
15. As recommended by the 29<sup>th</sup> session, the FAO Senior Locust Forecasting Officer joined a portion of the 2015 Joint Survey in Iran between Chabahar and Zahedan in order to provide on-the-job training in surveying, eLocust3, eLocust3D and reporting for improvements in the quality and utility of the Joint Survey.
16. In 2016, the Joint Survey was carried out only in Iran because the Pakistani portion of the survey could not be undertaken as security authorization was not granted due to insecurity.
17. In Iran, a total of 120 stops were made in 7 544 km. Small-scale breeding occurred in the Jaz Murian Basin of the interior where isolated hoppers were seen. Elsewhere, low numbers of solitarious adults were present near Zaboli and Chabahar.
18. The delegates reviewed and **agreed** with the suggestions made by the joint surveys in 2015 and 2016 to strengthen future joint surveys (Annex 4).
19. Iran and Pakistan were encouraged to maintain the Joint Survey and find ways to continue it without interruption whenever possible considering the security situation. The Pakistani delegate indicated that security has improved recently in Baluchistan, Pakistan as was hopeful that a single joint survey could be resumed in 2017. The delegates, in turn, reaffirmed their commitment to the importance of the annual joint survey and suggested that, if necessary, security forces should accompany the team
20. In accordance with a recommendation at the 29<sup>th</sup> session, the delegates reviewed the DSA rates, bearing in mind that DSA accounts for a large portion of the Joint Survey costs and that DSA is to cover the realistic cost of accommodation and food during the survey. It was **agreed** that the original DSA rates should be reinstated for future joint surveys because of the hardship encountered during the survey and the lack of significant savings by reducing the DSA rates.
21. In accordance with a recommendation at the 29<sup>th</sup> session, the delegates reviewed the usefulness and benefits of an Iranian locust officer joining a national survey in Oman of the spring breeding areas along the northern (Batinah) coast of Oman since this area is contiguous with that in southeast Iran and southwest Pakistan. If significant locust infestations develop in this area, they can potentially threaten the SWAC region by migrating to I.R. Iran in the spring and to the Indo-Pakistan area at the beginning of the summer.

Therefore, it is desirable to be familiar with this breeding area as well as the Desert Locust situation. It was **agreed** that this activity should continue on annual basis. Similarly, it is hoped that an Omani locust officer will participate in a national survey in I.R. Iran.

22. The delegates discussed the possibility of an additional locust survey officer from Afghanistan and India to join the coastal portion of the Joint Survey carried out in Iran between Chabahar and Bandar Abbas. This provides an opportunity for on-the-job training in survey methodology, planning, use of eLocust3 and reporting. Both countries should participate each year. For this reason, the GOE for the Iran Joint Survey will be increased because an additional vehicle will be required.
23. The delegates also discussed the benefits of a Pakistani locust officer in joining a national survey in the summer breeding areas of India as a means to become familiar with locust habitats and to strengthen collaboration between the two countries.
24. The delegates from India and Pakistan **agreed** that the Joint Border meetings should continue on a regular basis every year between June and November. It is the responsibility of the host country to finalize and issue the Joint Border Meeting report. It was noted that reports do not always contain a map showing rainfall and the locust situation in both countries. The Locust Information Officer of the host country should use Rv4.1 to prepare this map.

**Recommendation 1. The improvements to future joint surveys as suggested by the joint survey teams should be implemented.**

**Recommendation 2. The original DSA rates should be reinstated for future joint surveys.**

**Recommendation 3. The Executive Secretary should request DPP Pakistan to confirm the security situation in Baluchistan at least two months prior to the start of the joint survey.**

**Recommendation 4. An Iranian locust officer should continue to join a national survey in Oman during the spring on an annual basis.**

**Recommendation 5. A locust officer from Afghanistan and India should join the coastal portion of the joint survey in Iran on an annual basis.**

**Recommendation 6. A locust officer from Pakistan should join a national survey in India during the summer on an annual basis.**

**Recommendation 7. A locust officer from I.R. Iran should join a national survey during the summer in Pakistan (2017) and India (2018).**

**Recommendation 8. The Locust Information Officer of the host country should use Rv4.1 to prepare a map showing rainfall and the locust situation in both countries to be included in the Joint Border Meeting report.**

### **Information and reporting**

25. The Executive Secretary reviewed the quality and timeliness of reporting to the Desert Locust Information Service (DLIS) at FAO Headquarters during 2015–2016 (Annex 5). It was noted that all frontline countries were sending reports on time in both years but that quality has been declining since 2014. The reasons for this decline varied in each country. In India, the Locust Information Officer had been transferred away from the Jodhpur Field Headquarters to the office in Bhuj. Consequently, his ability to contribute to early warning and preventive control and provide important information and advice is severely curtailed. In Pakistan, there is only one Locust Information Officer even though the country has a high volume of field data to manage and analyse because it is one of the few recession countries that has more than one seasonal breeding area. Furthermore, he was attending the 11-month DLIS training course at FAO headquarters in 2016. In Iran, the DLIO is well integrated within the national Locust Section but more attention should be given to reporting. In addition, the delegates discussed the importance of strong, regular link and collaboration between the DLIO and the national locust head.
26. Frontline countries were reminded to report at least once per month and to send RAMSES data with a brief summary and interpretation within 5 days of the end of surveys, rather than waiting until the end of the month. During control campaigns and outbreaks, countries should increase the frequency of reporting to two times per week. It is imperative that extra efforts are made to ensure that control totals reported in RAMSES, situation reports and monthly bulletins match and are the same.

27. Delegates discussed measures to be taken to address the decline in reporting quality, specifically the importance of having two Desert Locust Information Officers in each frontline country located in the Locust Section and collaborating directly with the locust head, and to provide them with additional training on RAMSES GIS. The importance of the annual CRC/SWAC Desert Locust information officer (DLIO) workshops conducted by the Senior Locust Forecasting Officer was recognized as a primary means to keep national locust information officers constantly updated in the use of new technologies, refresh their knowledge and provide them with advanced training. However, it was felt that these officers could benefit from two workshops per year. In addition, the Senior Locust Forecasting Officer should conduct monthly video conference calls with the national locust information officers in the three frontline countries. It is hoped that these measures will improve the quality of reporting and the preparation of high quality national locust bulletins.
28. The functionality of RAMSES GIS should be expanded to include a plug-in to summarize data and help national locust information officers to help prepare the fortnightly or monthly locust bulletins.
29. The Executive Secretary encouraged countries to include the SWAC logo on their fortnightly or monthly locust bulletins as a means to demonstrate regional solidarity and collaboration.

**Recommendation 9. All efforts should be made to ensure that India has two locust information officers located in the LWO field headquarters in Jodhpur.**

**Recommendation 10. All efforts should be made to appoint an assistant to the current locust information officer in Pakistan.**

**Recommendation 11. Two national locust information officers from each frontline country should participate in the annual CRC/SWAC Desert Locust Information Officer workshop.**

**Recommendation 12. The Executive Secretary should conduct a regional workshop on an annual basis for SWAC locust information officers, including one officer from Afghanistan and Locust Heads when possible.**

**Recommendation 13. A plug-in should be developed for RAMSES GIS that summarizes data and helps to prepare the national locust bulletins.**

**Recommendation 14. FAO DLIS should organize monthly video calls to national locust information officers in order to provide technical support for locust information and reporting.**

**Recommendation 15. All countries are encouraged to include the SWAC logo in national locust bulletins.**

### **New technologies**

30. New versions of eLocust (eLocust3) and RAMSES GIS (Rv4) were introduced in all locust-affected countries on 1 January 2015. eLocust3 includes a custom application, eLocust3D, that allows teams to navigate without the need of internet connectivity to areas of green vegetation as indicated in the latest remote sensing imagery. FAO DLIS distributed 35 units to India, 30 to Pakistan and 11 to Iran at no cost to the countries except for shipping via FAO pouch.
31. Since January 2015, RAMSES GIS has been updated numerous times to Rv4.1, reflecting improvements in functionality, security, updating and maintenance as requested by countries. It was noted that SWAC should be proud that the Rv4.1 programmer comes from this region.
32. The Executive Secretary provided feedback on the usage of eLocust3 and RAMSES GIS during 2015–2016 (Annex 6). eLocust3 was used by the frontline countries to send more than 8 000 messages of which three-quarters were sent by India alone due to its continual monitoring of locust breeding areas throughout the year.
33. It was noted approximately USD 10 000 per year is spent on eLocust3 costs. While this may sound excessive, it should be noted that this data is the foundation for all early warning and preventive control, which represents the cost of less than 1 000 litres of pesticide. About 69% of this amount was for activation and monthly subscription fees while the remaining 31% was for data transmission. Ideally, countries should strive to balance activation and subscription costs with data transmission costs. India and Pakistan have managed to do this quite well. On the other hand, Iran's activation costs and subscription fees are nearly seven times the data costs. Iran was encouraged to improve this by deactivating those units that are not expected to be used for six months or more. A RAMSES GIS plug-in was developed to help manage eLocust3 units better.

34. The Executive Secretary presented several new technologies that are under development. Google Earth Engine is expected to reduce the delivery time of greenness maps and facilitate access to current data. A ten-day soil moisture map will become available operationally by 2018 that can be used to help prioritize surveys and guide teams to potential breeding areas. A ten-day dryness map is nearly completed that will indicate those areas that are drying out at the end of a rainy season so as to help determine those areas in which survey teams can be withdrawn. FAO DLIS is exploring the use of drones in extensive and intensive survey as well as for spot control. There are a number of challenges that must be addressed in the next year or so before this can become operational.

**Recommendation 16. Countries using eLocust3 should consider developing a systematic method of managing the storage of eLocust3 units and checking the date/time and battery status.**

**Recommendation 17. Countries should translate the references in eLocust3 to local languages and load them onto the tablets.**

## Improving preventive control

### Contingency planning

35. The four member countries reviewed and updated the first drafts of their contingency plans for outbreaks (in frontline countries) and invasion (Afghanistan) at a SWAC workshop (Tehran, November 2016). In addition, each country prepared a first version of a contingency plan for upsurges.
36. Each delegate provided an update on the status of their current draft plan. India shared a revised version to the Executive Secretary that was further amended and is now nearly finalized and ready for submission to the Government. Iran has redrafted their plan to include all locust species that will be shared soon with the Executive Secretary for review. The current draft plan for Pakistan needs to be completed with additional information. The Afghan plan is ready to be submitted to the Government.
37. The session **endorsed** the recommendations from the recent workshop for developing a checklist of components to include in a contingency plan and to undertake mock exercises in the field for testing the contingency plan.

**Recommendation 18. The Executive Secretary should develop a checklist of contingency plan components.**

**Recommendation 19. All countries should finalize their contingency plans and submit them to their Government once they have been reviewed by the Executive Secretary.**

**Recommendation 20. The Executive Secretary in collaboration with the Plant Protection Organization should organize and conduct a mock exercise in the field to test the contingency plan in I.R. Iran and include one participant from each of the other member countries.**

### Managing resources

38. The importance of systematically managing resources for locust control was noted at the recent Contingency Planning workshop. At present, no member country has a digital system for this purpose but it was felt that a tool linked with locust data would be a valuable asset to contingency planning and responding to locust emergencies.

**Recommendation 21. A plug-in should be developed for RAMSES GIS to manage resources for locust survey and control.**

### Environment, health and safety

39. The Executive Secretary informed delegates of the importance to conducting control operations that do not harm the environment of the operators as well as managing pesticide stocks in a safe manner. Whenever possible, biopesticides should be considered for use, especially near sensitive areas such as water bodies, national parks, inhabitations and grazing lands. Delegates were encouraged to take the necessary steps to increase the usage of biopesticides in their countries as a means to reduce dependency on chemical treatments.

40. Biopesticides are partially used in some member countries. In Afghanistan, 500 kg is in the process of being procured for use against Moroccan Locust. In India, IGRs are registered but not for Desert Locust control. In Iran, *Metarhizium* is used for research purposes only.
41. The delegates indicated interest in using biopesticides such as *Metarhizium* and IGRs for Desert Locust control but highlighted the difficulties of introducing such products that have not yet been shown to be effective under local conditions.

**Recommendation 22. The Trust Fund should procure 2 kg of *Metarhizium* per country for demonstration purposes and to check its efficacy in the respective countries.**

**Recommendation 23. The Executive Secretary should liaise with *Metarhizium* manufacturer(s) to encourage the registration of *Metarhizium* in member countries.**

### Training

42. The Executive Secretary presented a brief review of training activities that were carried out in the region under the Commission Trust Fund, specifically support provided to national training efforts as well as the organization of national Training of Trainers course to identify new Master Trainers. Unfortunately, very few requests were received to provide support to national training workshops in 2015–2016.
43. India organized a two-day training course on eLocust3 and Rv4.1 in November 2015 in which 23 locust officers were trained by three locust information officers from the Locust Warning Organization.
44. The Iranian Master Trainers conducted a five-day national training course on survey and control for 17 locust officers in January 2015. An eight-day national master trainer workshop was conducted by the FAO Senior Locust Forecasting Officer and the Iranian Master Trainers in February 2016 that identified five out of 16 participants as potentially new Master Trainers.
45. It was noted that national master trainer workshops have not been conducted in Afghanistan and Pakistan.
46. I.R. Iran **agreed** to provide training in I.R. Iran to at least four locust officers from Afghanistan.
47. The session discussed various ideas to ensure sustainable and meaningful training within member countries by developing regional Master Trainers who could conduct master trainer workshops in the coming years. The delegates **agreed** about the importance of regular training of locust staff and at least 2–3 national courses should be conducted every year to train new staff and provide refresher training to existing staff. All countries were encouraged to establish an annual training plan and to include training in the national budget.
48. Frontline countries continued to participate in the annual CRC/SWAC interregional workshop for Desert Locust Information Officers (DLIO) in 2015 and 2016 in which two DLIOs from India participated in both years, one from Iran in 2015 and two in 2016, and one from Pakistan in 2015.
49. Mr. Shahbaz presented an overview of his 11-month training in DLIS at FAO headquarters (December 2015 to November 2016). It was clear that he learned much about locusts, reporting, spatial analysis, weather and forecasting so that DPP now has a well-trained, highly qualified expert for locust information and forecasting that will benefit both the country and the region.

**Recommendation 24. The Executive Secretary should conduct a national Master Trainer workshop in Pakistan and include the best Master Trainer from India and Iran as assistants.**

**Recommendation 25. I.R. Iran should provide training to at least four locust officers from Afghanistan.**

### Review of 29<sup>th</sup> session recommendations and progress made

50. The delegates reviewed progress made on the 38 recommendations made at the 29<sup>th</sup> session (Annex 7). It was noted that 61% (23/38) of the recommendations were implemented, 21% (8/38) partially implemented and 18% (7/38) not implemented. This performance was very similar to the previous biennium of 2012–2014. FAO and the Executive Secretary implemented 88% of its recommendations, I.R. Iran 61%, India 50%, Pakistan 45%, and Afghanistan 36%.
51. It was decided that the following recommendations, with amendments, should be carried over during the next biennium:



- a. Translation and printing of Desert Locust Master Trainer Manual (DLMTM) and Standard Operating Procedures (SOPs) in Pakistan to be completed by June 2017.
- b. National Master Trainer (training-of-trainer) course to be conducted in Bahawalpur, Pakistan in October/November 2017.

## Financial health of the Commission

52. The new annual member contribution rate, 50% increase from the previous rate, came into effect on 1 January 2016. So far, payments have not been received from India and Pakistan in 2016.
53. It was explained that a large portion of the expenditures for activities undertaken in 2015–2016 was covered by FAO Regular Programme allocation for SWAC; thus, reducing the financial burden on the Commission's trust fund.
54. Afghanistan indicated that it has consistently pays its annual contributions on a regular basis but noticed that there was a miscalculation of the 50% increase that should be USD 4 125 rather than USD 3 985 as incorrectly indicated in the 2016 Call for Funds letter.
55. India indicated that it will pay its 2016 contribution by the end of January 2017.
56. I.R. Iran indicated that the equivalent of USD 62 500 in Iranian riyals was recently paid to the FAO Representation in Tehran and that another similar instalment can be expected in about three months. It was noted that the country has two years in which to pay 50 percent (USD 172 500) of its arrears (USD 345 000) so that the remaining 50 percent can be waived.
57. Pakistan explained that a payment of USD 66 800 was submitted by the Ministry of National Food Security and Research to the State Bank of Pakistan on 20 May 2016 for Trust Fund 9123. The payment covers the annual contributions for 2012, 2013, 2014 and 2016. This was being clarified and the Ministry will provide the relevant reference to FAO.

**Recommendation 26. FAO should correct the annual contribution rate for Afghanistan.**

**Recommendation 27. Pakistan should clarify its payment for 2012–2014 and 2016.**

**Recommendation 28. All countries are requested to assume their financial obligations to SWAC in a timely and regular manner, and inform the Executive Secretary accordingly.**

## Accounts for 2015–2016

58. The Executive Secretary presented the accounts for 2015–2016 according to FAO accounting codes (Annex 8). Explanations were given on the overall financial situation as well as detailed expenditures. The financial expenditures from the Commission's trust fund in 2015 were USD 51 529 and thus far in 2016, USD 40 900. The total expenditures charged against the Commission's trust fund in 2015–2016 was USD 92 159 compared to a budget of USD 179 600 plus support costs that was approved at the 29<sup>th</sup> session.
59. It was noted that the Iran/Pakistan Joint Survey expenditures were under spent because the survey could not be carried out in Pakistan in 2016. No expenditures were made for national training, participation in the 41<sup>st</sup> DLCC, translation and printing of the Desert Locust Master Trainer Manual and Standard Operating Procedures in Pakistan, and the national Master Trainer course in Pakistan.
60. Annex 9 shows that more annual contributions were received from member countries in 2015 (USD 96 965) compared to 2014 (USD 27 094) and, so far, in 2016 (USD 95 785). Contributions received in 2015–2016 were USD 192 751, which exceeded the expected USD 142 900 at the new contribution rate.
61. Considering the contributions that were received in 2015–2016 and the expenditures for the same period, the account was underspent. This was primarily due to the transfer of expenditures to the FAO Regular Programme allotment and the cancelation of some activities.
62. As of 6 December 2016, the balance of the Trust Fund was USD 69 693.

## Work plan for 2017–2018

63. Member Countries identified their priorities for expenditures in 2017–2018 and, after substantial discussion, a list of standard, carry-over (from the 2014–2016 work plan) and new items was **agreed** on for a total expenditure of about **USD 290 500** (revised) plus support costs (Annexes 10 and 11):

(a) Standard expenditures

**IRN/PAK Joint Survey.** This includes a return to the original DSA level, the cost of air travel to allow the locust head and team leader to participate in the final meeting in Tehran (2017) and Karachi (2018) under Option B (simultaneous separate surveys), the inclusion of one locust officer each from India and Afghanistan in the coastal portion of the Iranian joint survey between Chabahar and Bandar Abbas, and an increase in GOE in I.R. Iran for an additional vehicle for the two visiting survey officers.

**Session travel and GOE.** The Trust Fund will support the participation of the person responsible for the national locust programme in each member country at the 31<sup>st</sup> session of SWAC.

**eLocust3 transmission.** The Trust Fund will cover the costs associated with activation and monthly data transmission and subscriptions for eLocust3 in the three frontline countries.

**National training.** The Trust Fund will supplement national training workshops upon request by the member country that includes workshop date, participant, trainers, subjects and detailed budget. A report should be prepared by the country for each workshop.

**Iran survey exchange in Oman.** The Trust Fund will cover the cost of one Iranian locust officer to join an Omani national survey to be carried out on the northern (Batinah) coast of Oman during the spring breeding period on an annual basis. The cost of the actual survey will be covered by Oman.

**Interregional Locust Information Officer workshop.** The Trust Fund will support the participation of two designated national locust information officers from the three frontline countries who use RAMSES GIS on a regular basis at an annual interregional CRC/SWAC workshop.

**DLCC.** The Trust Fund will support the participation of one person in each member country who is responsible for the national locust programme at the 41<sup>st</sup> session of the DLCC to be held in 2015-2016.

**New technology support.** Technical support for updating RAMSES GIS functionality and other technologies.

(b) Carry-over expenditures from the 2013–2014 work plan

**Desert Locust Master Trainer Manual (DLMTM) and Standard Operating Procedures (SOP).** This covers the cost of printing the DLMTM and SOP in Pakistan. Both documents should be distributed without further delay.

**National ToT.** In collaboration with the Executive Secretary, the best nationally designated Master Trainer in India and I.R. Iran should conduct an 8-day workshop to train 10–16 potential trainers in Pakistan in October/November 2017.

(c) New expenditures

**Regional Locust Information Officer workshop.** A regional workshop will be organized in I.R. Iran on an annual basis by the Senior Locust Forecasting Officer for two nationally designated locust information officers in the three frontline countries and one officer from Afghanistan. When appropriate, the national Locust Heads will be invited.

**Pakistan survey exchange in India.** The Trust Fund will cover the cost of one Pakistani locust officer to join an Indian national survey to be carried out on Rajasthan during the summer breeding period on an annual basis.

**I.R. Iran survey exchange in Pakistan and India.** The Trust Fund will cover the cost of one Iranian locust officer to join a Pakistani national survey in 2017 and an Indian national survey in 2018, both of which will be carried out in the summer breeding areas of the respective country.

**Afghanistan and India survey exchange in I.R. Iran.** The Trust Fund will cover the cost of one Afghani and one Indian locust officer to join the coastal portion of the Joint Survey in I.R. Iran on an annual basis as a means to provide on-the-job training.

**Contingency plan mock exercise.** A 5-day mock field exercise will be organized in Chabahar, I.R. Iran by the Executive Secretary and the Plant Protection Organization to test its contingency plan. The Trust Fund will cover the participation of the contingency planning focal person from Afghanistan, India and Pakistan, and the costs of the exercise.

**Biopesticide.** A small quantity (2 kg) of *Metarhizium anisopliae* var. *acridium* should be procured for each country for demonstration purposes and to check efficacy.

**Afghanistan training.** I.R. Iran agreed to provide training on survey and control to four locust officers from Afghanistan. The training will be carried out in I.R. Iran.

**Afghanistan survey kits.** Ten survey kits should be procured for Afghanistan that include a compass, anemometer, dissecting kit, hand lens, tally counter and a basic GPS.

**RAMSES GIS plug-ins.** Two plug-ins should be developed for the RAMSES GIS, one that summarizes data in order to help locust information officers prepare improved national locust bulletins, and one that manages resources used for locust survey and control as part of the contingency planning process.

**Computer equipment.** A MacBookPro laptop should be procured for the national locust information officer(s) in I.R. Iran and India. Training will be provided during the regional locust information officer workshop.

64. The 2017–2018 work plan utilizes the current estimated balance and is based on the presumption that member countries will pay their annual contributions on time in 2017 and 2018, and that Pakistan pays its arrears for 2012–2014 and 2016.

### **Any Other Business**

65. The Executive Secretary presented the current status of member country contributions to the FAO Desert Locust Control Committee (DLCC), which is the global body that advises the Director-General on all Desert Locust matters (Annex 12). The DLCC trust funds covers expenditures in which all countries benefit such as the monthly FAO Desert Locust Bulletin, the Pesticide Referee Group that evaluates pesticides for locust control, the 11-month training course in DLIS for national locust information officers, and support to DLIS. Countries were reminded of their financial obligations to the DLCC.
66. The DLCC last met in June 2012. The date of the next session has not yet been set.
67. The Iranian delegate confirmed that the Government of I.R. Iran has accepted that it is a member of DLCC.
68. The total arrears of the four member countries in the SWAC region to the DLCC trust fund is USD 629 895.24.

**Recommendation 29. All countries are requested to assume their financial obligations to DLCC in a timely and regular manner, and inform FAO accordingly.**

### **Date and place of the next session**

69. The Executive Secretary explained that, according to tradition, session venues were rotated amongst the member countries. The delegate from Afghanistan said that his country would be pleased to host the 31<sup>st</sup> session, subject to approval being obtained from his Government. Alternatively, if for some reason this was not possible, the delegate from India agreed that the session could be hosted in his country. It was **agreed** to hold the session in December 2018.
70. To avoid unnecessary last-minute delays and panic, the host country should be reminded of its obligation in June 2017, followed with informal agreement by January 2018 and formal agreement by June 2018.

**Recommendation 30. The host country of the 31<sup>st</sup> session should provide its formal agreement to FAO by June 2018.**

## **Adoption of the report**

71. The Report, with the agreed amendments, was adopted unanimously with acclaim.

## **Condolences**

72. A moment of silence was observed to pay homage to the departed soul of Mr. Zafar Ali Khan who passed away unexpectedly in November 2016. Zafar was born in 1949 in Peshawar, Pakistan. He obtained a M.Sc. degree in Zoology (Entomology) from the University of Peshawar in 1975. He began his career as Junior Entomologist at the Commonwealth Institute of Biological Control (CIBC) in 1977. He joined the Department of Plant Protection where he was an Entomologist for two years, followed by Deputy Director and Director (Technical). He was Locust Head in Karachi from 1997 until his retirement in 2010. He participated in the first Iran/Pakistan Joint Survey (1995) and in numerous workshops, meetings and sessions. The Commission would like to express their sincere condolences to his family and government.

## Annex 1. List of participants

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## **Annex 2. Agenda**

### **Opening of 30<sup>th</sup> session**

1. Welcome
2. Election of the Chairperson and Vice-Chairperson of the Commission
3. Adoption of the agenda
4. Election of the Drafting Committee

### **Technical issues**

5. Desert Locust early warning
  - a. Situation (January 2015 – December 2016) and forecast to summer 2017
  - b. Report on Joint-Border Surveys and Meetings in 2015 and 2016
  - c. Information and reporting
  - d. New technologies
6. Improving preventive control
  - a. Contingency planning
  - b. Managing resources
  - c. Environment, health and safety
  - d. Training

### **Administrative issues**

7. Review 29th session recommendations and progress made
8. Financial health of the Commission
9. Accounts for 2014–2016 and work plan for 2017–2018
10. Any other business
11. Date and place of the next session

### **Closing**

12. Adoption of the report

### **Annex 3. Desert Locust situation (2015–2016) and forecast to summer 2017**

#### **Eastern Region**

The situation remained calm throughout the region. Although small-scale breeding occurred in 2015 during the spring in the interior of southeast Iran and during the summer along both sides of the Indo-Pakistan border, locust numbers remained low, gregarization did not take place and control operations were not required.

On 3 August 2016, a small mature swarm was reported on the coast of Pakistan in the Uthal area west of Karachi where local breeding was in progress since mid-July. Ground control teams were immediately mobilized and 220 ha were treated by 9 August. Based on interviews with locals who saw a mature swarm on 27 July and the presence of first and second instar gregarious hoppers on 11 August, at least one swarm probably departed from eastern Yemen on about 18–23 July and migrated for four days on strong southwesterly monsoon winds over the Arabian Sea to Pakistan. Upon arrival, the swarm dispersed, mixed with local solitary hoppers and adults, copulated and laid eggs that hatched from 3 August onwards. Some adults from the swarm continued northeast to the Indus Valley where they were seen near Sukkur on 10 August. Control operations were immediately mounted and treated 441 ha, mostly during the first week of August. Thereafter, the situation remained calm.

#### **Western Region**

The Desert Locust situation remained calm until the autumn of 2015 when unusually heavy rains fell over a widespread area of northern Mauritania and southern Morocco for several days during the last half of October. These rains allowed ecological conditions to remain favourable for breeding for at least six months. As a result, an outbreak developed in northwest Mauritania during December and extended to adjacent areas of southern Morocco. Two generations of breeding led to the formation of hopper and adult groups as well as hopper bands that were treated by ground teams in Mauritania (8 666 ha) and Morocco (15 478 ha) from December 2015 to the end of June 2016. In late June and early July, adults and a few groups started to move through oases in western Mauritania to summer breeding areas in the south. There was a brief threat that some of these adults could arrive to northern Senegal but this did not materialize. Elsewhere, small-scale breeding occurred near irrigated perimeters in central Algeria where 715 ha were treated, and low numbers of adults overwintered in parts of northern Niger.

Again, an outbreak developed in western Mauritania in October 2016 as a result of good summer rains. It is likely that more locusts were present than reported since several summer areas where good rains had fallen were not surveyed. In addition, breeding and the formation of groups occurred in northern Mali where surveys were not possible due to prevailing insecurity. As a result, locusts suddenly increased in western Mauritania in late September, and groups and bands formed from October onwards, extending into southern Morocco. In early December, a new generation of adults formed groups and a few small swarms. Since late September, ground teams have treated nearly 20 000 ha while Morocco treated almost 200 ha since mid-October.

#### **Central Region**

Control operations continued in early 2015 against four outbreaks that had developed along both sides of the Red Sea during 2014. Control operations in Sudan, Eritrea, Saudi Arabia and Yemen prevented the outbreaks from escalating and spreading further and, by mid-2015, the situation had become calm. In early November 2015, two cyclones brought unusually heavy rains to southern Yemen and, to a lesser extent, to northern Somalia. Several years of rainfall occurred in a few days that caused flooding in coastal and interior areas of Yemen. As a result, ecological conditions remained favourable for breeding for at least six months. In March 2016, ground teams first discovered hoppers and groups that were forming groups in one area along the coast that could be surveyed. These locusts were probably second generation as the first of breeding was not detected due to a lack of surveys. In April, further rains fell in southern Yemen, and swarms formed on the coast that moved into the interior, rapidly matured and laid eggs within a widespread, remote and insecure area where the rains had fallen. Hopper bands formed in May and new swarms started to form in late June. As vegetation dried out in the interior of Yemen, at least one swarm migrated to Pakistan while a few groups and perhaps small swarms moved south across the Gulf of Aden to northern Somalia and eastern Ethiopia and others west into the



central highlands of Yemen and onto the northern Red Sea coast, extending into Saudi Arabia where 6,400 ha were treated in September–October. Limited control was carried out in northern Somalia (53 ha) and Ethiopia (31 ha). In Yemen, less than 600 ha could be treated between May and November because ground control operations were severely hampered by persistent insecurity, logistical difficulties and beekeeping activities.

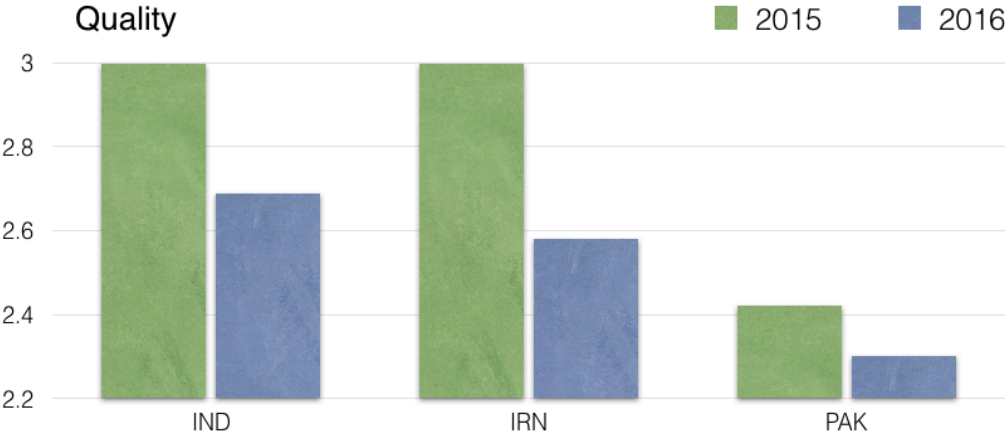
The situation remained calm in the region until the end of the summer when locusts concentrated in the interior of Sudan and formed a few small groups. Ground and aerial control operations (5 325 ha) were quickly mounted and successfully brought the situation under control, resulting in only low numbers of adults appearing in the winter breeding areas on the Red Sea coast. In November, local outbreaks developed in Eritrea and Yemen where hopper groups formed in both areas. Control operations were undertaken in Eritrea (850 ha) but were limited in Yemen to 40 ha due to insecurity.

#### **Annex 4. Improvements to future Iran/Pakistan joint surveys**

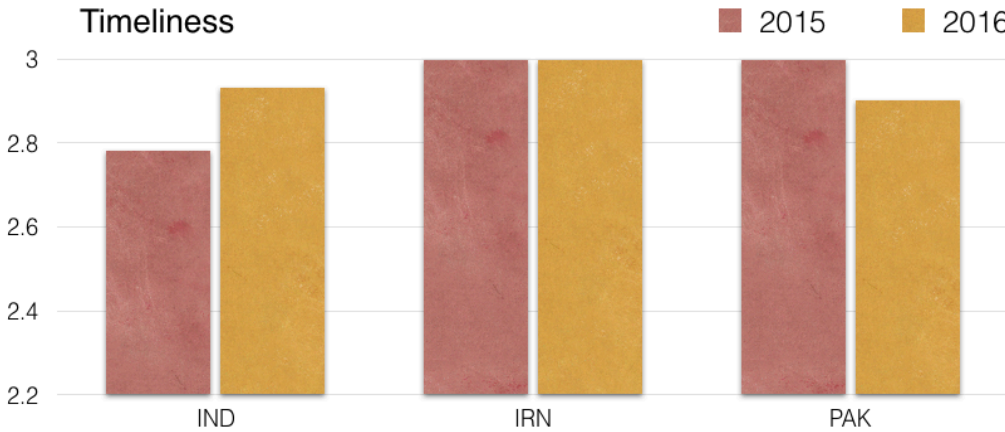
The session agreed on the following improvements to future joint surveys as suggested by the joint survey team in 2015 and 2016.

1. continue the Joint Survey every year
2. continue the use of walkie-talkies
3. one survey officer from the Joint Survey of last year should participate in the next year
4. at least one driver should be from Baluchistan
5. at least one driver should be a mechanic
6. all drivers should have off-road desert driving skills and experience
7. drivers should be responsible for taking photos
8. each team should carry two activated eLocust3 units in case one breaks down
9. eLocust3D should be used to navigate to green vegetation, and national locust information officers should prepare a package containing the latest imagery and upload it to the tablets
10. the new Locus App for general navigation during Joint Survey should be tried.

**Annex 5. Desert Locust reporting**

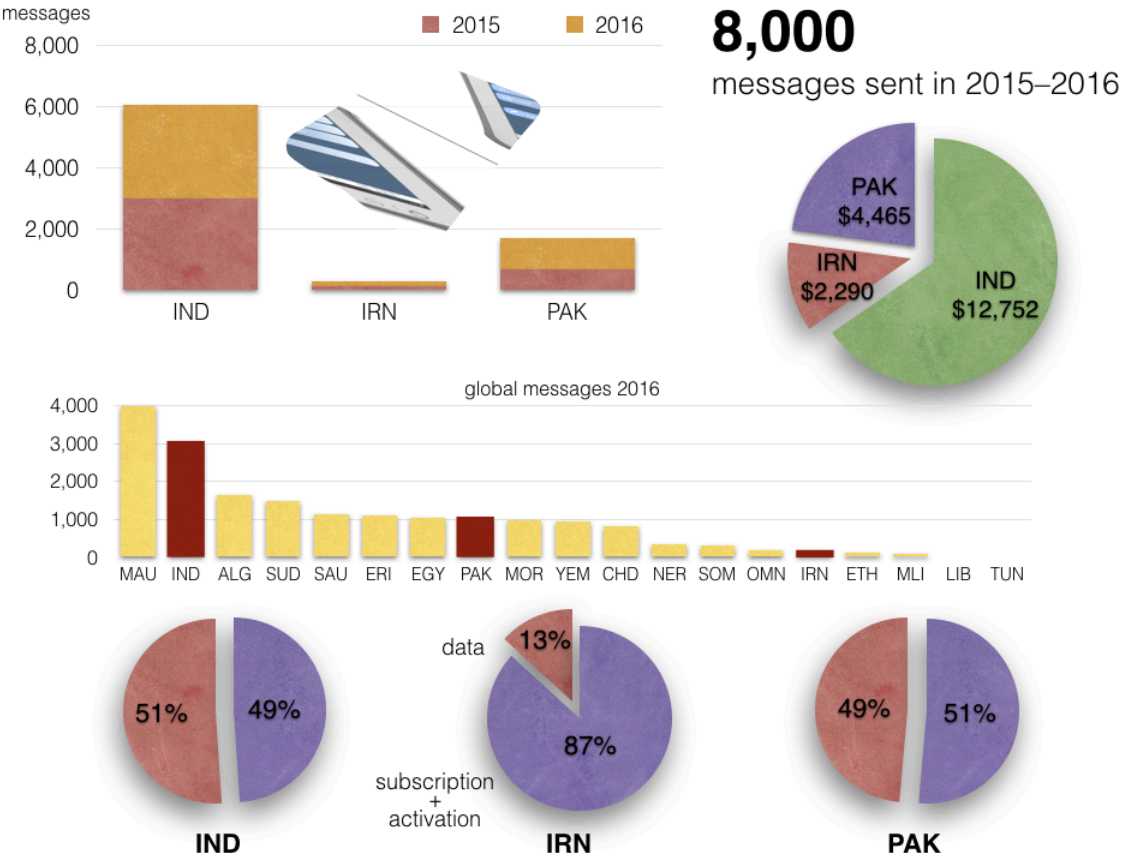


**Figure. 1.** Reporting quality 2015–2016 scored on a scale of 1 to 3 where 3 is the highest quality report that contains complete data and information such as RAMSES data with a brief summary and interpretation, or a well-written bulletin with maps. Reporting quality declined in all countries in 2016.

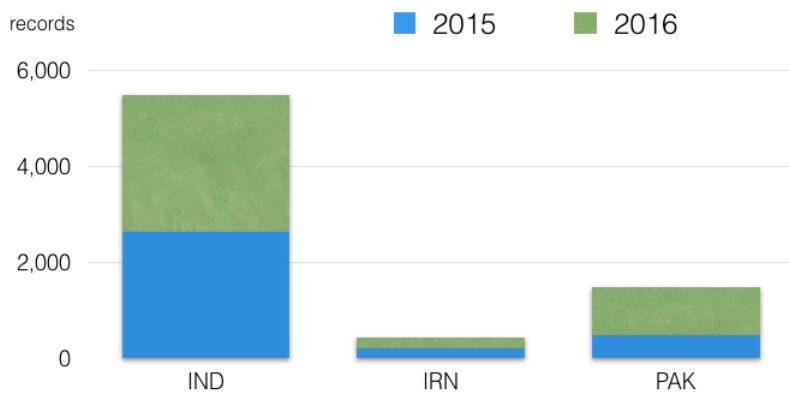


**Figure. 2.** Reporting timeliness 2015–2016 scored on a scale of 1 to 3 where 3 is a timely report received within five days of the end of the survey or control operation. I.R. Iran maintained timely reporting in 2015 and 2016 while India improved slightly and Pakistan declined slightly.

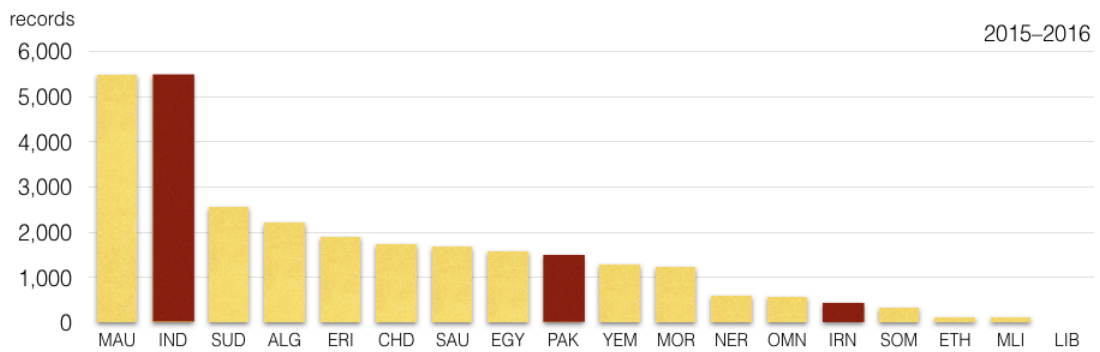
**Annex 6. Usage of eLocust3 and RAMSES GIS in 2015–2016**



**eLocust3.** Some 8 000 messages were sent from eLocust3 units in India, Iran and Pakistan in 2015–2016 for a total cost of about USD 18 000. India sent the highest number of messages. Both India and Pakistan managed eLocust3 units efficiently because they balanced monthly subscription/activation/deactivation and data costs. India was also the second highest user of eLocust3 in all locust-affected countries.



**7,400**  
data records in  
2015–2016



**RAMSES GIS.** Some 7 400 records were imported into RAMSES GIS in India, Iran and Pakistan in 2015–2016. Of this, India accounted for 75 percent because of its continual monitoring in Rajasthan and Gujarat. India was also the second highest user of RAMSES GIS in all locust-affected countries.

## Annex 7. Status of the 29<sup>th</sup> session recommendations

- (not implemented) + (implemented) -/+ (partial)

No.	Recommendation item	AFG	IND	IRN	PAK	FAO	Comments
1	Frontline countries should increase their efforts in incorporating information from locals, nomads, scouts and others into the national locust information network as a means of guiding locust survey teams in those areas that are inhabited		+	+	+		
2	The annual Iran/Pakistan joint survey should continue despite difficulties posed by insecurity			+	-	+	2016 JS not carried out in PAK
3	Until flights resume to Zahedan, both countries should alternately host the final meeting in Tehran and Karachi, commencing with Tehran in 2015. Accordingly, the GOE of the travelling country should be increased by USD 2 000 to allow participation of both the team leader and locust head			-	-		PAK did not attend in 2015; 2016 JS not carried out in PAK
4	The SWAC Executive Secretary should join the portion of the joint survey in I.R. Iran in 2015 to ensure the continuation of a high-quality survey and participate in the final meeting					+	
5	The SWAC Executive Secretary should prepare a SOP for the joint survey and final meeting					+	
6	One locust officer from India (2015), Afghanistan (2016) and Pakistan (2017) should participate in the portion of the I.R. Iran joint survey between Chabahar and Bandar Abbas	-	-				Not possible due to low TF balance
7	The current level of DSA in both countries should be reduced by 10 percent just for the joint survey in 2015 and 2016					+	
8	The level of DSA for the joint survey should be reviewed at the next session and adjusted if necessary	+	+	+	+	+	
9	One Iranian locust officer should join a survey to be carried out by the Omani locust unit on the northern (Batinah) coast of Oman during the spring of 2015 or 2016. The usefulness of this activity and its results should be reviewed at the next session of the Commission	+	+	+	+	+	
10	The CRC/SWAC Desert Locust information officer workshops should continue on an annual basis and two designated national information officers should participate from each of the frontline countries		+	+	+	+	
11	The designated national locust information officer from Pakistan should participate in the 11-month training at DLIS starting in December 2015				+	+	
12	I.R. Iran and Pakistan are encouraged to deactivate eLocust3 units after the spring and summer (Pakistan only) season when units are not expected to be used for six months or more			-/+	+		
13	eLocust3 units should be dispatched to I.R. Iran and Pakistan as soon as possible and time for use during spring surveys					+	
14	The individual who is responsible for national locust activities and for related contingency planning in each member country and the Executive Secretary should participate in a CRC Contingency Planning Workshop in Egypt (February 2015)	+	+	+	+	+	

No.	Recommendation item	AFG	IND	IRN	PAK	FAO	Comments
15	The possibility of incorporating an electronic inventory system as a tool for contingency planning and maintaining updated inventories should be explored	+	+	+	+	+	
16	A final version of the outbreak/invasion contingency plan should be ready for each country by the end of 2015 and submitted to the Executive Secretary for final approval.	+	+	+	+		Final versions submitted but require minor updating
17	A workshop should be organized in 2016 to draft a first version of an upsurge contingency plan, attended by the person responsible for national locust activities and for related contingency planning in each member country	+	+	+	+	+	Tehran, Nov 2016
18	Frontline countries should facilitate registration of <i>Metarhizium</i> and IGRs in their countries for Desert Locust control, and refer to the 10 <sup>th</sup> report of the Pesticide Referee Group	-	-	-	-		New ideas to be discussed in 30 <sup>th</sup> session
19	If payments are not made under some compelling circumstances, then the Commission should do its best to help the member country and provide some support	-	-	-	-	-	No action taken
20	In case the Trust Fund balance becomes dangerously low, the Executive Secretary should suspend all non-essential activities but maintain those important activities that impact the region as a whole such as maintaining the locust early warning system					+	Action taken for Pakistan
21	The member countries reaffirmed the need and the importance to increase the level of annual contributions as these have not changed since the establishment of the Commission fifty years ago while there has been a substantial increase in costs and Commission activities	+	+	+	+		I
22	The annual member country contributions to the SWAC Trust Fund should be increased by 50 percent	+	+	+	+		
23	The Executive Secretary should send an official letter to member countries requesting the increase of annual contributions to the SWAC Trust Fund by 50 percent and include the necessary documentation and justification					+	
24	If I.R. Iran pays 50 percent of its arrears within four years, then the remaining 50 percent will be waived			-/+			
25	The Executive Secretary should inform the relevant units in FAO concerning the arrangement for payment of the Iranian arrears					+	
26	Existing financial instruments in member countries should be incorporated into the national contingency plans	+	+	+	+		
27	The Pakistani and Iranian Master Trainers, in collaboration with the Executive Secretary, should organize a national Training of Trainers (ToT) workshop in their countries to select the best participants as potential Master Trainers to be trained further by FAO			+	-	-/+	Not organized in Pakistan due to low TF balance & no contribution from PAK
28	Member countries should provide brief descriptions, reports and photos of their training and other field activities to the Executive Secretary for uploading to the SWAC website	-	+	+	-	+	Nothing received from AFG and PAK
29	Pakistan should prepare a project to strengthen its national locust capacity, and submit it to the Executive Secretary for donor consideration.				-		

No.	Recommendation item	AFG	IND	IRN	PAK	FAO	Comments
30	Pakistan should complete the translation of the <i>FAO Desert Locust Master Trainer Manual</i> , and print and distribute this and the <i>FAO Standard Operating Procedures (SOPs)</i> without further delay				-		Carry-over to 2017–2018
31	The Executive Secretary should check with the FAO Legal Office to obtain evidence of Iranian membership to the DLCC so that I.R. Iran can rejoin DLCC.					-/+	Iran confirmed its membership
32	FAO should inform the Executive Secretary when the annual Call of Funds is issued so that the Secretary can inform the FAO Representation and the relevant locust authorities in each country					+	
33	The Member Countries reaffirmed and reiterated the important and critical role played by DLIS in early warning as the basis for locust preventive control and, therefore, insisted that FAO continue to fund its operation and services. In the case of budget constraints and as a last resort, the Commission would consider contributing to some part of the operating costs of DLIS					+	
34	FAO should take more care and ensure that monthly eLocust charges are applied correctly to each region					+	
35	Pakistan should provide proof of payments to FAO in case of annual contribution discrepancies so that action can be taken to readjust the arrears				-		Nothing received
36	Member countries should inform the Executive Secretary when the request is submitted to their government	-/+	-/+	-/+	-		
37	FAO's financial management system should be modified to allow reporting of expenditures by activity rather than FAO accounting code					-	Not possible
38	One laptop, printer, scanner and digital camera should be procured for the Plant Protection Department in Afghanistan to be used for locust-related matters					+	

- (not implemented) + (implemented) +/- (partial)



## Annex 8. SWAC Trust Fund accounts 2015–2016

### Statement of Accounts 2015 (MTF/RAS/001/MUL)

Account	Description	Expenses
<b>5013</b>	<b>Consultants</b>	
	Ghaemian COF.REG contract Nov-14/Feb-15	1,265
	<b>subtotal</b>	<b>1,265</b>
<b>5014</b>	<b>Contracts</b>	
	Novacom PO 313798	8,555
	Novacom PO 318532	11,488
	<b>subtotal</b>	<b>20,043</b>
<b>5020</b>	<b>Locally contracted labour</b>	
	Ghaemian PO 4601114 Iran May 2015	536
	<b>subtotal</b>	<b>536</b>
<b>5021</b>	<b>Travel</b>	
	Gour Pramod Kumar TA 80790 Egypt 22-15 Feb 15	1,245
	Thakur Jagar Nath TA 80791 Egypt 15-19 Feb 15	1,166
	Sharma Chandra Shekhar TA 80793 Egypt 22-25 Feb 15	1,245
	Hemat Mirjan TA 81239 Egypt 15-19 Feb 15	2,132
	Shahbaz TA 82050 Egypt 22-25 Feb 15	988
	Ghaemian TA 83032 Feb 15	737
	Chalakizabardast Mahmoud TA 83033 Feb 15	822
	Babalifashki, Ali TA 83034 Feb 15	-538
	Ghaemian April 15 Joint survey Iran/Pakistan	4,615
	BUKHARI TRAVELS Pakistan March 15	1,053
	KUONI BUSINESS TRAVEL INDIA Jan 15	3,881
	<b>subtotal</b>	<b>17,346</b>
<b>5024</b>	<b>Expendable Equipment</b>	
	Ghaemian PO 4601114 Iran May 2015	993
	RICCI ARTI GRAFICHE PO 312769 I4202/E - A celebration of 50 years	-1,768
	RICCI ARTI GRAFICHE correction I4202/E - A celebration of 50 years	-1,815
	<b>subtotal</b>	<b>-2,590</b>
<b>5028</b>	<b>General Operating Expenses</b>	
	Ghaemian PO 4601114 Iran May 2015	1,855
	Ghaemian April 15 Joint survey Iran/Pakistan	5,931
	TCS (PVT) LIMITED Pakistan Mar 15	67
	<b>subtotal</b>	<b>7,853</b>
<b>5040</b>	<b>General Overhead Expenses</b>	
	FAO Pouch and courier services	1,200
	<b>subtotal</b>	<b>1,200</b>
<b>5029</b>	<b>Support Costs</b>	
	5% on accounts 5024 and 5025; 13% on all other accounts	5,606
	<b>subtotal</b>	<b>5,606</b>
	<b>Total expenditures in 2015</b>	<b>51,259</b>

**Statement of Accounts 2016 as of 30 November 2016 (MTF/RAS/001/MUL)**

<b>Account</b>	<b>Description</b>	<b>Expenses</b>
<b>5014</b>	<b>Contracts</b>	
	Novacom PO 318532	3,164
	Novacom PO 324045	14,222
	<b>subtotal</b>	<b>17,386</b>
<b>5021</b>	<b>Travel</b>	
	Chalakizabardast Mahmoud TA 127585 Mar 16	1,549
	Babalifashki Ali Mar 16 Ad hoc DSA Iranian joint survey team	4,669
	PLANT PROTECTION ORGANIZATION (PPO) Jan 16 ToT ws in Chabahar, Iran	2,391
	<b>subtotal</b>	<b>8,609</b>
<b>5023</b>	<b>Training</b>	
	PLANT PROTECTION ORGANIZATION (PPO) Jan 16 ToT ws in Chabahar, Iran	830
	PLANT PROTECTION ORGANIZATION (PPO) Nov 16 SWAC Contingency Planning Workshop (Tehran 5-9 Nov 2016) Iran	113
	<b>subtotal</b>	<b>943</b>
<b>5024</b>	<b>Expendable Equipment</b>	
	Novacom services PO 323288	2,287
	SPAZIO PC PO 323305 Sep 16	10
	PLANT PROTECTION ORGANIZATION (PPO) Jan 16 ToT ws in Chabahar, Iran	1,693
	PLANT PROTECTION ORGANIZATION (PPO) Nov 16 SWAC Contingency Planning Workshop (Tehran 5-9 Nov 2016) Iran	226
	<b>subtotal</b>	<b>4,216</b>
<b>5025</b>	<b>Non Expendable Equipment</b>	
	Canon digital camera (soft commitment only) Jan 16	606
	<b>subtotal</b>	<b>606</b>
<b>5028</b>	<b>General Operating Expenses</b>	
	Iran IRR Petty Cash Cashier Oct 16	47
	PLANT PROTECTION ORGANIZATION (PPO) Survey Iran/Pakistan misc exp. Mar 16	6,000
	PLANT PROTECTION ORGANIZATION (PPO) Jan 16 ToT ws in Chabahar, Iran	601
	PLANT PROTECTION ORGANIZATION (PPO) Nov 16 SWAC Contingency Planning Workshop (Tehran 5-9 Nov 2016) Iran	1,072
	<b>subtotal</b>	<b>7,720</b>
<b>5040</b>	<b>General Overhead Expenses</b>	
	FAO Pouch and courier services	13
	<b>subtotal</b>	<b>13</b>
<b>5029</b>	<b>Support Costs</b>	
	5% on accounts 5024 and 5025; 13% on all other accounts	2,013
	<b>subtotal</b>	<b>2,013</b>
<b>Total expenditures up to end of November 2016</b>		<b>40,900</b>

## Annex 9. SWAC Trust Fund member country contributions 2015–2016

TF912300 – MTF/RAS/001/MUL

Figures are in USD

<b>Member Governments</b>	<b>Outstanding 31/12/2013</b>	<b>Contribution due for 2014</b>	<b>Received by 31/12/2014</b>	<b>Outstanding 31/12/2014</b>
Afghanistan	(2,140.00)	2,750.00	610.00	0.00
India	0.00	27,000.00	26,484.26	514.74
I.R. Iran	320,002.43	25,000.00	0.00	345,002.43
Pakistan	119,419.54	16,700.00	0.00	136,119.54
<b>2014 total</b>	<b>437,281.97</b>	<b>71,450.00</b>	<b>27,094.26</b>	<b>481,637.71</b>
<b>Member Governments</b>	<b>Outstanding 31/12/2014</b>	<b>Contribution due for 2015</b>	<b>Received by 31/12/2015</b>	<b>Outstanding 31/12/2015</b>
Afghanistan	0.00	2,750.00	2,750.00	0.00
India	514.74	27,000.00	27,515.74	0.00
I.R. Iran	345,002.43	25,000.00	50,000.00	320,002.43
Pakistan	136,119.54	16,700.00	16,700.00	136,119.54
<b>2015 total</b>	<b>481,637.71</b>	<b>71,450.00</b>	<b>96,965.74</b>	<b>456,121.97</b>
<b>Member Governments</b>	<b>Outstanding 31/12/2015</b>	<b>Contribution due for 2016</b>	<b>Received by 9/12/2016</b>	<b>Outstanding 31/12/2016</b>
Afghanistan	0.00	4,125.00	3,985.00	140.00
India	0.00	40,500.00	0.00	40,500.00
I.R. Iran	320,002.43	37,500.00	25,000.00	332,502.43
Pakistan	136,119.54	25,050.00	66,800.00	94,369.54
<b>2016 total</b>	<b>456,121.97</b>	<b>107,035.00</b>	<b>95,785.00</b>	<b>467,511.97</b>

*N.B. The above figures reflect:*

- (a) payment by Pakistan for 2012–2014 and 2016 (recommendation 26)*
- (b) the correct annual contribution rate for Afghanistan starting in 2016 but was not correctly reflected in the 2016 Call For Funds (recommendation 27)*

## Annex 10. SWAC Trust Fund work plan 2017–2018

TF912300 – MTF/RAS/001/MUL

Figures are in USD

EXPENDITURES	\$AFG	\$IND	\$IRN	\$PAK	\$Total
<b>Standard expenditures</b>					
IRN/PAK Joint survey (2017, 2018)	5,000	5,000	34,000	28,000	72,000
31st session travel/op costs (2018)	1,500	2,500	2,500	2,500	9,000
eLocust3 transmission (2017, 2018)	0	6,667	6,666	6,667	20,000
National training (2017, 2018)	4,000	4,000	4,000	4,000	16,000
RAMSES/eLocust3 workshop (2017, 2018)	0	10,000	10,000	10,000	30,000
41st DLCC	2,500	2,500	2,500	2,500	10,000
New technology support	2,500	2,500	2,500	2,500	10,000
<i>subtotal</i>	<b>15,500</b>	<b>33,167</b>	<b>62,166</b>	<b>56,167</b>	<b>167,000</b>
<b>Unimplemented (carry-over) expenditures</b>					
DLMTM translation + printing	0	0	0	2,500	2,500
SOP printing	0	0	0	1,000	1,000
National ToT	0	0	0	10,000	10,000
<i>subtotal</i>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,500</b>	<b>13,500</b>
<b>New expenditures</b>					
SWAC DLIO workshop (2017, 2018)	5,000	10,000	10,000	10,000	35,000
IRN contingency planning mock exercise	2,500	2,500	22,500	2,500	30,000
IRN survey exchange in OMN (2017, 2018)	0	0	3,000	0	3,000
IRN survey exchange in PAK (2017) and IND (2018)	0	0	5,000	0	5,000
PAK survey exchange in IND (2017, 2018)	0	0	0	5,000	5,000
AFG training in IRN	10,000	0	5,000	0	15,000
RAMSESV4.1 plugins	0	2,000	2,000	2,000	6,000
MacBook Pro laptops for DLIOs	0	2,500	2,500	0	5,000
Survey kits (10)	3,500	0	0	0	3,500
Metarhizium (2 kg/country)	625	625	625	625	2,500
<i>subtotal</i>	<b>21,625</b>	<b>17,625</b>	<b>50,625</b>	<b>20,125</b>	<b>110,000</b>
<i>Support costs (13%)</i>					
<b>TOTAL</b>	<b>37,125</b>	<b>50,792</b>	<b>112,791</b>	<b>89,792</b>	<b>290,500</b>

## Annex 11. SWAC Trust Fund budget 2017–2018

Figures are in USD

FAO code	Item	Total (USD)
5013	Consultants	16 000
5014	Contracts	20 000
5020	Locally contracted labour	6 500
5021	Travel	157 224
5023	Training	6 500
5024	Expendable procurement	11 000
5025	Non-expendable procurement	5 000
5028	General operating expenses	68 276
	<b>subtotal</b>	<b>290 500</b>
5029	PSC 12.1%	35 150
	<b>TOTAL</b>	<b>325 650</b>

## Annex 12. Status of DLCC contributions for SWAC countries

Figures are in USD

	<b>Annual contribution</b>	<b>Balance owed</b>
Afghanistan	3 480.00	15 360.00
India	20 000.00	40 000.00
I.R. Iran	20 000.00	561 495.24
Pakistan	6 520.00	13 040.00
<b>TOTAL</b>	<b>50 000.00</b>	<b>629,895.24</b>